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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
BARHAM, BETHANY P				
ART UNIT		PAPER NUMBER		
1615				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/508,764

Applicant(s)

NGUYEN-KIM ET AL.

Examiner

Bethany Barham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Summary

Receipt of Applicant's Amended Claims and Response filed on 10/17/07 are acknowledged. Claims 1-20 are pending. Claims 1-20 are rejected.

Response to Applicant

Applicant's traverse Examiner's lining out of the documents AP and AU (12/22/04) and AU (09/22/04). However the Examiner disagrees and respectfully points out that Applicant is required according to MPEP 609 (37 CFR 1.98 (a)(3)(ii)) to submit "(ii) A copy of the translation if a written English-language translation of a non-English-language document, or portion thereof, is within the possession, custody, or control of, or is readily available to any individual designated in § 1.56(c)."

Further MPEP 609.04 states: "Each information disclosure statement must further include a concise explanation of the relevance, as it is presently understood by the individual designated in **37 CFR 1.56(c)** most knowledgeable about the content of the information listed that is not in the English language. The concise explanation may be either separate from the specification or part of the specification. If the concise explanation is part of the specification, the IDS listing should include the page(s) or line(s) numbers where the concise explanation is located in the specification....If a complete translation of the information into English is submitted with the non-English language information, no concise explanation is required. An English-language

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equivalent application may be submitted to fulfill this requirement if it is, in fact, a translation of a foreign language application being listed in an information disclosure statement. There is no requirement for the translation to be verified. Submission of an English language abstract of a reference may fulfill the requirement for a concise explanation." Applicant has not supplied an English translation, English abstract, etc and therefore the references are not being considered.

Due to Applicant's Amendments the double patenting rejection, 112 2nd rejection, and 102 rejections are hereby withdrawn. The 103 rejection of record is hereby maintained.

NEW REJECTIONS

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,992,507 ('507).

The limitations of claims 1-6 are taught:

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- '507 in Example 20 teaches a polyurethane comprising PTMEG (T-1000), (which is polyTHF 1000 molecular weight, instant component A), trimethylolpropane (instant component B), N-methyl diethanolamine (instant component C) and Isophorone diisocyanate (instant component D). Also see Examples 1-9, which teaches a PPO-diol or polyTHF and further trimethylolpropane, DMPA (Dimethylolpropionic acid), isophorone diisocyanate, a dispersing diol and diethanol amine. The Examples teach varying the amounts of DMPA, IPDI, etc.
- Furthermore, the polyurethane of '507 comprises various diisocyanates including hexamethylene and isophorone (col. 2, line 67-col. 3, line 1), diols and triols (col. 3, lines 13-15) preferred dimethylolpropionic acid (col. 6, line 8), polyols specifically, neopenyl glycol, trimethylolpropane, pentaerythritol, etc (col. 4, lines 1-3). Dimethylolpropionic acid, trimethylolpropane, isophorone diisocyanates, and diols are preferred and used in the examples 2, 8-9 and 19-20 (Also see claims 1, 7, 9-11).

The limitations of claims 7-10 and 14-15 are taught:

- '507 teaches an aqueous dispersion of polyurethane, which is useful as coating compositions (abstract). '507 teaches that polyurethanes are well-known as being useful for coatings and films (col. 1, line 13-15), and furthermore teaches that they may be employed as adhesives, binding agents, and coating compositions to be applied to any substrate, including wood, metals, glass, cloth, leather, paper, plastics, foam and the like, with various ingredients such as emulsifiers, organic solvents, etc added (col. 7, lines 45-66).

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- Example 20 is taught above and teaches a polyurethane comprising (of solids) 38.7% PTMEG (T-1000) (instant component A), 1% trimethylolpropane (instant component B), 2.8% N-methyl diethanolamine (instant component C) and 34.3% Isophorone diisocyanate (instant component D). Furthermore, the composition is a dispersion comprising 35% polymer and 75% solvents. While Examples 8-9 teach other percentages of the same components can be used.

The limitations of claims 11-13 are taught:

- '507 teach 250 and 1000 molecular weight poly-THF (Example 9, and 20

The limitations of claims 16-20 are taught:

- '507 teaches a ratio of active hydrogens to NCO groups of 1.0 to 2.0:1 (which overlaps with the instant claimed ranges in claim 16-17 (col. 7, lines 36-40).
- '507 teaches adding an amine to end the reaction by reacting with the remaining isocyanate (see Examples, and col. 9, lines 5-9).
- '507 does not teach a K value or glass transition temperature or the claimed range for component C for the formed polyurethane.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to look to '507 in order to make a polyurethane of the instant invention. '507 teaches the same reactants to make a polyurethane, with substantially overlapping ranges and values or values near percentages as instant claimed for all components. One of ordinary skill in the art would know how to optimize the ranges of '507, as the MPEP 2144.05 states "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges

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by routine experimentation." Further, the prior art teaches a composition and process for forming said composition described by applicants instant application, but applicants observation that it also has specific K value and glass transition temperature does not give it patentable weight, since it is the same composition and same process of making, as adding a characterization to a prior art patented invention is not patentable.

Claims 1-3, 5, and 7-10 are rejected under 35 U.S.C. 102(b) as being anticipated by US 4,992,507 ('507) in view of 6,524,564 ('564).

The limitations of claims 1-3 and 5 are taught:

- '507 is taught above.
- '507 does not teach that 3 mol% of triisocyanates can be optionally included.
- '564 teaches a polyurethane composition (see abstract, claim1): includes triols and triamines, trimethylolpropane is taught as a triol (col. 6, lines15-16 and col. 5, line 13-14, instant B); (b) includes diisocyanates such as hexamethylene diisocyanate, isophorone diisocyanate and 3 mol% of triisocyanates (col. 6, lines 5-10, instant D); (c) includes molecular weights of 500-3000 of polyetherols such as polytetrahydrofurans (col. 6, lines 31-40, instant A); (d) includes polysiloxanes (col. 7, lines 45-47, instant E); (e) includes diamines or diols such as dimethylolpropanoic acid (col. 10, lines 48-50, instant C).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of '507 in view of '564. '507 teaches a

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polyurethane as instant claimed with the specific reactants such as hexamethylene and isophorone diisocyanate, while '564 teaches making a polyurethane prepolymer with substantially the same reactants and further the specific diisocyanate reactants which can be replaced by up to 3 mol% triisocyanate. As such one of ordinary skill in the art would know that triisocyanates can be substituted for diisocyanates up to 3 mol% in polyurethane formation.

MAINTAINED REJECTIONS

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,992,507 ('507) in view of US 6,566,438 B1 ('438).

- '507 is taught above.
- '507 does not teach the claimed range of component C in the instant application.
- '438 teaches a polyurethane coating composition comprising (see abstract, claim 1, Example B):
 - (instant A) 2-20% polyTHF (col. 3, lines 10-11),
 - (instant B) 0.5-5% trimethylolpropane (col. 4, line 64),
 - (instant C) 0.5-3% preferably dimethylolpropionic acid (col. 5, line 19) and 0.15-1.5% methyl-diethanolamine (col. 6, line 32) and 0.1-1% polyamines like ethylenediamine (col. 6, line 52) for a total of 5.5%,
 - (instant D) 2-20% isocyanate in particular IPDI (col. 5, lines 56-59),
 - and (instant E) father components.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the polyurethane coating composition '507 could be made with the above claimed components in varying percentages overlapping with applicants as shown by '438. One of ordinary skill in the art would know how to optimize the ranges of '507 and '438, as the MPEP 2144.05 states "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." '507 and '438 teach the exact compounds claimed in the instant application and the % weight of components overlap or are near to the amount claimed by applicants such that one of ordinary skill in the art would know how to experiment to obtain workable ranges.

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but not persuasive and are moot in view of the new rejections necessitated by Applicant's amendment. Applicant's argue that the 103 rejection over '507 in view of '438 may overlap with some of the components but that the specific recited amounts of components A-E and A-E itself is not embodied, and the amount of crosslinking is not taught in the art. First, the Examiner respectfully points out that A-E components are taught in the above Examples and cited sections of '507. The Examiner points out that many of the components A-E are taught in values that are found within the ranges instant claimed by Applicants. Applicants argue that that at most the art '507 in view of

'438 teaches 4.5% of component C, however this is incorrect, as shown above the total is in fact 5.5% ($3 + 1.5 + 1$). One of ordinary skill in the art would know how to optimize the ranges of '507 and '438, as the MPEP 2144.05 states "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." '507 teaches varying component C (DMPA), while '438 teaches that 3 different reactants all meeting component C can be added to a urethane polymer, these general conditions and the fact that components A-B and D-E are taught in the instant claimed ranges, meet the terms of obviousness.

Applicant's argument about crosslinking is not persuasive. '507 teaches terminating the reaction by adding an amine to react with the unreacted diisocyanate, which is the same as instant taught and the instant claims are not drawn to a specific percentage of crosslinking or crosslinking agent, but rather the preamble teaches 'crosslinked polyurethane' which is what the art teaches. '507 teaches that the polymer 'may be further modified with crosslinking agents', and since the reactant are taught to be the same the product produced is equivalent to Applicant's instant claims absent a showing of factual evidence otherwise.

Conclusions

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bethany Barham whose telephone number is (571)-272-6175. The examiner can normally be reached on Monday to Friday; 8:30 a.m. to 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on (571) 272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bethany Barham
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/Michael P Woodward/
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